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AUG 30 2006

Serial No. 10/784,054  
60130-2012; 02MRA0356**REMARKS**

Claims 2-3 and 22-28 remain pending in the application including independent claims 22 and 26. Claims 1 and 4-21 have been cancelled. New claims 29-36 have been added including independent claims 29 and 30.

Claims 2, 3, 22, and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lienert et al. (US 4160851) in view of Publication No. US 2004/0175593 to Davis et al. (Davis). Claim 22 recites the step of adding fibers to the back-foamed layer wherein the plastic film prohibits fibers from causing imperfections in an exterior surface of the vehicle body panel. The combination of references does not disclose this feature.

With regard to the limitation that the plastic film prohibits fibers from causing imperfections, the examiner argues that it is well known in the art to utilize the plastic film as disclosed in Lienert to prohibit fibers from causing imperfections. The examiner further states that it would have been obvious to utilize the plastic film of Lienert so as to prohibit the imperfections of the exterior. Applicant respectfully disagrees.

There is no disclosure in Lienert or Davis that would indicate that the plastic film of Lienert would be capable of prohibiting imperfections in an exterior surface of a vehicle body panel due to introduction of fibers into the foam layer of Lienert. Applicant respectfully requests that the examiner provide a reference disclosing a plastic film as defined in the claims that prevents such imperfections.

If fibers were applied in the Lienert method, as argued by the examiner, the article produced by such a method would comprise a thin outer metal skin, a dried polyurethane film with a maximum thickness of 100  $\mu\text{m}$  (see col. 9, lines 61-65), and a back-foamed layer including fibers. However, these fibers would clearly destroy the exterior surface of the article, i.e. the exterior surface of the outer metal skin would include imperfections.

The plastic film of Lienert is approximately 8 times thinner than applicant's plastic film (see paragraph [27]). Lienert discloses that the plastic film is used to improve adhesion of plastics to metal. See col. 2, lines 3-14. There is no disclosure or suggestion in Lienert that the

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plastic film is used in any way to protect an exterior surface of the metal. Further, as the examiner admits, there is no disclosure or suggestion in Lienert of the need for fibers to be used in back foaming. As such, based on the teachings of Lienert, applicant asserts that it would not be obvious to assume that the plastic film would be able to prohibit fibers from causing imperfections. Davis does not provide any additional insight into this matter. Davis does not disclose or suggest that a plastic film, such as that of Lienert, would be capable of prohibiting imperfections in an exterior surface due to the use of fibers as taught by Davis.

Further, the plastic film of Lienert would not be capable of prohibiting imperfections as claimed. Lienert discloses that the dried polyurethane film has a maximum thickness of 100  $\mu\text{m}$  (see col. 9, lines 61-65). This layer is too thin to prohibit imperfections in an exterior surface of an adjacent layer due to the use of fibers such as those of Davis. The examiner makes the assumption that the Lienert plastic film would be thick enough to do so, but this assumption cannot be supported by the prior art of Lienert and Davis. Applicant respectfully requests that the examiner provide a reference in the prior art that indicates that a plastic film having a maximum thickness of 100  $\mu\text{m}$  would be capable of prohibiting imperfections due to fibers such as those disclosed in Davis.

Further, none of the documents disclose or suggest the use of a thin exterior covering with a relatively thick applied plastic film. Many problems exist in the art of back foaming of coverings. One problem relates to adhesion between different layers. While adhesion may be good with a thin applied layer, adhesion can easily be unacceptable with a thicker layer due to internal tensions created during hardening of the plastic film. If one were to increase the thickness of the plastic film of Lienert, adhesion properties between the foam layer and the metal would be compromised. As a very thin plastic film is utilized in Lienert to *improve* adhesion qualities between a foam layer and a metal, increasing the thickness of the plastic film layer in Lienert would destroy the benefits achieved by Lienert. The proposed modification cannot render the prior art unsatisfactory for its intended purpose (see MPEP 2143.01 (V)) and cannot change the principle of operation of a reference (see MPEP 2143.01 (VI)). If the proposed

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modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 7233 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Thus, for the many reasons set forth above, applicant asserts that there is no motivation or suggestion to modify Lienert in the manner proposed by the examiner.

Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Lienert in view of Davis and further in view of Wieschermann et al. (US 6623068). Claim 25 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Lienert in view of Davis and further in view of Reedy (US 5707571). For the reasons set forth above, there is no motivation or suggestion to modify Lienert with the teachings of Davis. Wieschermann and Reedy do not make up for the deficiencies of Lienert and Davis.

Claims 26 and 28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lienert in view of Melchert (US 4544126). Claim 26 recites the step of hardening the plastic film such that plastic film prohibits fibers from causing imperfections in an exterior surface of the vehicle body panel. The examiner has admitted that Lienert does not disclose, suggest, or teach this feature. Melchert also does not disclose fibers as defined in claim 26. Thus, Lienert and Melchert do not disclose all of the claimed features of claim 26.

Further, claim 26 recites that the steps of applying the plastic film, hardening the plastic film, and applying liquid foamable material for forming the back-foamed layer are conducted in the open foam die. None of the references disclose, suggest, or teach this feature. The examiner argues that Lienert discloses this feature at col. 1, line 61 through col. 2, line 19; at col. 2, line 14; at col. 9, lines 56, and at col. 10, lines 63-65. These specified sections are set forth below.

It has now surprisingly been found that, by pretreating the metals with aqueous polyurethane dispersions, it is possible to obtain a considerable improvement in the adhesion of the foam to the surface of the metal. A very considerable improvement is obtained by a combination of alkoxy silanes with aqueous polyurethane dispersions as adhesion promoters. In cases where these

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two adhesion promoters are used, it is possible at the same time to obtain an extremely strong, hydrolysis-stable bond.

Accordingly, the present invention relates to a process for the production of composite materials of polyisocyanate plastics and metals, the plastics being produced by conducting a reaction mixture which forms a polyisocyanate plastic in such a way that the reaction mixture comes into contact with the surface of the metal during the chemical reaction. To improve the adhesion of the plastics to the metals, the metals are first coated on the side to which the plastics are to be applied with an aqueous polyurethane dispersion and the chemical reaction by which the plastic material is formed is carried out after drying of the coating obtained in this way.

More particularly, the present invention relates to an embodiment of this process which is distinguished by the fact that the metals are coated with an aqueous polyurethane dispersion which additionally contains alkoxy silanes. Col. 1, line 61 through col. 2, line 19.

In order to obtain optimum adhesion values, the metal parts coated with the polyurethane dispersion have to be dried before processing. Col. 9, lines 54-56.

For example, a reaction mixture which reacts to form the foam is spaced onto the pretreated metal surface. Col. 10, lines 63-65.

None of the sections specified by the examiner refers in any way to working steps in *open* foam dies. The specified sections certainly do not disclose applying the liquid foamable material for forming the back foamed layer in an open foam die. As such, Lienert does not disclose all of the claimed features.

Melchert does not make up for the deficiencies of Lienert. Specifically, Melchert does not disclose the claimed features specified above. Melchert discloses closing the foam die and subsequently introducing the liquid foamable material into the closed die via passageways formed in a mold member. See col. 2, lines 9-11 and 32-33. Thus, Melchert teaches away from applicant's invention as defined in claim 26.

With regard to the limitation that the plastic film prohibits fibers from causing imperfections, the examiner argues that it is well known in the art to utilize the plastic film as

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disclosed in Lienert to prohibit fibers from causing imperfections. The examiner further states that it would have been obvious to utilize the plastic film of Lienert so as to prohibit the imperfections of the exterior. For the reasons set forth above with regard to claim 22, applicant asserts that the examiner's assumption cannot be supported, and that it would not be obvious to modify Lienert in the manner proposed by the examiner.

Thus, for the many reasons set forth above, claim 26 is allowable over the recited combination.

Claim 27 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Lienert in view of Melchert (US 4544126) and further in view of Belanger (US 5612117). For the reasons set forth above, the rejection based on the combination of Lienert and Melchert is improper. Belanger does not make up for the deficiencies of Lienert and Melchert.

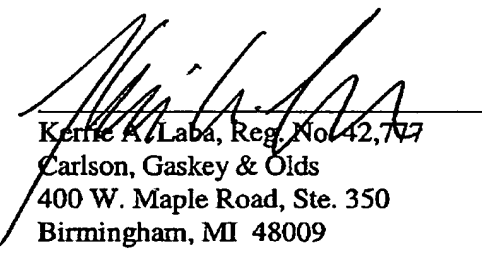
New independent claims 29 and 30 are also allowable over the recited references. None of the references disclose applying a plastic film onto a reverse side of a film-like exterior covering and hardening the plastic film while the film-like covering is already disposed within a foam die. Lienert discloses only pre-treated metal foils as outer layers (see col. 10, line 54). In Lienert, the metal foil is coated with polyurethane and then dried before processing. This pre-fabricated part is then brought into a foaming die and is backed foamed (see col. 10, lines 52-55). The provisional application for Davis discloses a multi-layer laminate that is pre-fabricated and then placed in a mold, before the substrate material is injected (see page 5, paragraph [0017]). As such, claims 29 and 30 are also allowable over the recited references.

Applicant asserts that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited. A check is enclosed to cover the cost of one additional independent claim. Applicant believes that no additional fees are necessary, however, the

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Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional fees or credit the account for any overpayment.

Respectfully submitted,

  
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Dated: August 30, 2006

**CERTIFICATE OF MAIL**

I hereby certify that the enclosed Response is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 30 day of August, 2006.

  
Laura Combs